Amendments to the Specification:

Please replace paragraph [0023] with the following amended paragraph:

[0023] The received vector is processed by a segmentation device 24 to produce segments, $\underline{r}_1 \ldots \underline{r}_n$ [[$\underline{r}_S$]] of the received vector $\underline{r}$. Figure 2 is an illustration of a preferred segmentation scheme, although others may be used. As illustrated in Figure 2, the received vector $\underline{r}$ is separated into a plurality of segments, $\underline{r}_1 \ldots \underline{r}_n$, [[$\underline{r}_S$]] (only segments $\underline{r}_1$, $\underline{r}_2$, $\underline{r}_3$, $\underline{r}_4$, $\underline{r}_5$, $\underline{r}_6$, $\underline{r}_7$, $\underline{r}_8$ and $\underline{r}_9$ shown). Preferably, the segments overlap as shown. The amount of the overlap is preferably twice the length the impulse response less one chip, 2*(W-1). W is the maximum length of the channel impulse response, over all channels of all users. This overlap facilitates the equalization of all chips, even though segments have finite length. For a given segment, all of the chips contributing to the portion of interest for that segment are equalized. To illustrate, the portion of interest of $\underline{r}_2$ is bounded by the dashed lines. The last chip in that portion will extend into the next segment by W-1 chips. Conversely, the chip furthest prior to the first chip in the region of interest extending into that region is W-1 chips prior to the first chip. Accordingly, all chips contributing to the portion of interest and not in that portion can be equalized, effectively removing their contribution from the portion of interest.

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Please replace paragraph [0026] with the following amended paragraph:

[0026] Figure 3 is an illustration of a preferred EQ-SIC device 28 applied to a received vector segment $\underline{r}_i$. EQ-SIC device 28 includes equalizers 34_1, 34_2,..., 34_K for equalizing vector segments $\underline{r}_i$, $\underline{x}_{i1}$, ... $\underline{x}_{iK-1}$ configured to produce spread data vectors $\underline{s}_{i1}$, $\underline{s}_{i2}$,..., $\underline{s}_{iK}$, respectively. EQ-SIC device 28 also includes despreaders 36_1, 36_2, ..., 36_K for despreading the spread data vectors $\underline{s}_{i1}$, $\underline{s}_{i2}$,..., $\underline{s}_{iK}$, configured to produce soft symbols and hard decision devices 38_1, 38_2, ..., 38_K configured to produce hard symbols vectors $\underline{d}_{i1}$, $\underline{d}_{i2}$,..., $\underline{d}_{iK}$ from the respective soft symbols. EQ-SIC device 28 also includes interference construction devices 40_1, 40_2, ... for determining respective user contributions $\underline{r}_{i1}$, $\underline{r}_{i2}$ ... in each corresponding spread data vector $\underline{s}_{i1}$, $\underline{s}_{i2}$, ... and subtractors 42_1, 42_2 ... for subtracting respective user contributions $\underline{r}_{i1}$, $\underline{r}_{i2}$ ... from respective corresponding vector segments $\underline{r}_i$, $\underline{x}_{i1}$... In one implementation, all of the user signals are ranked, such as by their received power. For the user having the highest received power, the received vector segment $\underline{r}_i$ is equalized by a equalizer

34_1 using the channel response associated with that user (user 1), producing a spread data vector $\underline{s}_{i1}$. The codes used by that user signal are used to produce soft symbols of that user data by a despreader 36_1. Hard decisions are performed on that user's soft symbols by a hard decision device 38_1 to produce a hard symbol vector, $\underline{d}_{i1}$. Using the detected hard symbols, the contribution of user 1 to the spread data vector is determined, $\underline{r}_{i1}$, by interference construction device 40_1. The user 1 contribution is subtracted from the segment by a subtractor 42_1 producing a new segment $\underline{x}_{i1}$ having user 1's contribution removed. Similar processing is performed on a second user (user 2) having a second highest received power level. User 2's hard symbols, $\underline{d}_{i2}$, are detected using an equalizer 34_2, producing spread data vector $\underline{s}_{i2}$, despreader 36_2 and hard decision device 38_2. The contribution of user 2 to $\underline{x}_{i1}$, $\underline{r}_{i2}$, is removed using an interference construction device 40_2 and a subtractor 42_2. This procedure is repeated K-1 times to produce segment $\underline{x}_{iK-1}$ which is vector $\underline{r}_i$ with the contributions of K-1 users removed ~~until a final user K~~. For the K^{th} user, only the hard symbols $\underline{d}_{iK}$ are determined using an equalizer 34_K, producing spread data vector $\underline{s}_{iK}$, despreader 36_K and hard decision device 38_K.

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also includes interference construction devices 40_1, 40_2, ... for determining respective user contributions $\underline{r}_{i1}$, $\underline{r}_{i2}$ ... in each corresponding spread data vector $\underline{s}_{i1}$, $\underline{s}_{i2}$, ... and subtractors 42_1, 42_2 ... for subtracting respective user contributions $\underline{r}_{i1}$, $\underline{r}_{i2}$ ... from respective corresponding vector segments $\underline{r}_i$, $\underline{x}_{i1}$... In one implementation, all of the user signals are ranked, such as by their received power. For the user having the highest received power, the received vector segment $\underline{r}_i$ is equalized by a equalizer 34_1 using the channel response associated with that user (user 1), producing a spread data vector $\underline{s}_{i1}$. The codes used by that user signal are used to produce soft symbols of that user data by a despreader 36_1. Hard decisions are performed on that user's soft symbols by a hard decision device 38_1 to produce a hard symbol vector, $\underline{d}_{i1}$. Using the detected hard symbols, the contribution of user 1 to the spread data vector is determined, $\underline{r}_{i1}$, by interference construction device 40_1. The user 1 contribution is subtracted from the segment by a subtractor 42_1 producing a new segment $\underline{x}_{i1}$ having user 1's contribution removed. Similar processing is performed on a second user (user 2) having a second highest received power level. User 2's hard symbols, $\underline{d}_{i2}$, are detected using an equalizer 34_2, producing spread data vector $\underline{s}_{i2}$, despreader 36_2 and hard decision device 38_2. The contribution of user 2 to $\underline{x}_{i1}$, $\underline{r}_{i2}$, is removed using an interference construction device 40_2 and a subtractor 42_2. This procedure is repeated K-1 times to produce segment $\underline{x}_{iK-1}$ which is vector $\underline{r}_i$ with the contributions of K-1 users removed. For the K^{th} user, only the hard symbols $\underline{d}_{iK}$ are determined using an equalizer 34_K, producing spread data vector $\underline{s}_{iK}$, despreader 36_K and hard decision device 38_K.